



ARIZONA DEPARTMENT OF TRANSPORTATION

INTERMODAL TRANSPORTATION DIVISION
ENGINEERING CONSULTANTS SECTION
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January 20, 1998

THOMAS G. SCHMITT
State Engineer

Engineering Consultants Section INFORMATION BULLETIN 98-07

TO: Consultants

FROM: Engineering Consultants Section *John*

SUBJECT: Design Criteria Modification for Laterally Loaded Drilled Shafts

Enclosed is the design criteria modification for laterally loaded drilled shafts. The effective date was January 13, 1998. These recommendations were developed by the ADOT/Consultant Task Group in response to concerns that current AASHTO recommendations are very conservative and significantly increase substructure costs.

If you have questions regarding this bulletin, please call John Lawson at (602) 255-8130.

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ARIZONA DEPARTMENT OF TRANSPORTATION

OFFICE MEMO

January 13, 1998

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TO: Ron Thomas
Engineering Consultant Section

FROM: John E. Lawson, Jr.
Geotechnical Design section

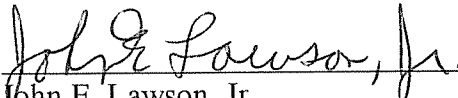
The attached modification to design criteria for laterally loaded drilled shafts is effective as of this date.

These recommendations were developed by an ADOT/Consultant Task Group in response to concerns that current AASHTO recommendations are very conservative and significantly increase substructure costs.

The Task Group also concluded that it is highly desirable to conduct a formal research project to confirm and refine the recommendations. Therefore, projects constructed in the interim prior to completion of the research will require instrumentation of abutment shafts.

A project-specific instrumentation plan should be developed and implemented for each applicable project, (which will be determined on a project by project basis). The Geotechnical Design Section will review and approve these plans.

Please convey this attached interim policy to all consultants performing geotechnical and/or bridge design activities for ADOT.



John E. Lawson, Jr.

cc: Engineering Records
Dan Davis
Doug Forstie
Tim Wolfe
Steve Jiminez
Robert Miller
Kamel Alqalam-FHWA

JEL/gm

January 13, 1998

Effective immediately, the Arizona Department of Transportation (ADOT) is implementing a modification to the design criteria applied to laterally loaded drilled shafts. Currently, ADOT subscribes to the use of AASHTO 1996 Interim Bridge Specification 4.6.5.6, "Lateral Loading", Subsection 4.6.5.6.1.4, "Group Action." The ratio of Lateral Resistance of shaft in group to single shaft is revised as follows:

Center to Center Shaft Spacing

| Boundary Condition | 3 Diameters | 8 Diameters |
|--|-------------|-------------|
| Pile Cap/Footing in intimate contact with soil | 0.8 | 1.0 |
| Pile Cap/Footing not in intimate contact with soil | 0.6 | 1.0 |

Notes:

1. Applies to parallel loading only.
2. Efficiency factors are to be applied to all shafts in a group regardless of pile arrangement.
3. Efficiency factors shall be linearly interpolated between 3D and 8D.
4. All other portions of 4.6.5.6 apply.